

A New Species of *Uroctonus* from the Sierra Nevada of California (Scorpiones: Vaejovidae)

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Abstract. — A new species of *Uroctonus* is described and named *Uroctonus franckei* Williams. This species has only been found at elevations of over 2133 meters in the Sierra Nevada of California. The closest relative of this new species appears to be *Uroctonus mordax* Thorell.

During 1980, a series of collecting trips was conducted along the eastern slope of the Sierra Nevada of California. Sampling at higher elevations (i.e., over 2000 meters) indicated an abundant and diverse scorpion community. Of particular interest was a large, dark, previously undescribed species which was only found at elevations above 2133 meters on slopes dominated by yellow pine (*Pinus jeffreyi* Grer. & Balf.). This new species is here described and named. Measurements cited are as defined by Williams (1980).

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Uroctonus franckei Williams, NEW SPECIES (Fig. 1, Table 1)

Diagnosis. — Total length up to 57 mm; base color of body dark reddish-brown, often appearing blackish; frontal margin of carapace bilobed, median ocelli small, ratio of carapace width to diameter of diad 6.2–6.8; pedipalps with palm swollen prolaterally in oblique plane, ratio of chela length to palm width 3.3–3.4; fixed finger of chela with trichobothrium *id* at finger origin, supernumerary denticles 7 on fixed finger, 8 on movable finger, primary row denticles divided into 6 subrows on fixed finger, 7 subrows on movable finger; brachium with three ventral trichobothria; soles of telotarsi with single row of spiniform setae ventrally; pectine teeth 13–14 in males, 9–12 in females.

Related to *Uroctonus mordax* Thorell in size, structure, and coloration, but differs as follows: metasomal segments more slender, ratio of metasomal length to width of widest metasomal segment greater than 8.0; palm of chela more swollen, ratio of chela length to palm width 2.0 or greater; macrosetae along metasomal keels reduced in number, dorsolateral keels with macrosetal formula 1-1-1-2 on segments I–IV (not 1-2-2-2).

Description of holotype. — Male. Coloration: Deep reddish-brown with underlying black variegations on dorsum, legs, and metasoma; mesosomal sterna golden-yellow, lacking dark marbling, except sternum 7 with underlying dark pigment;

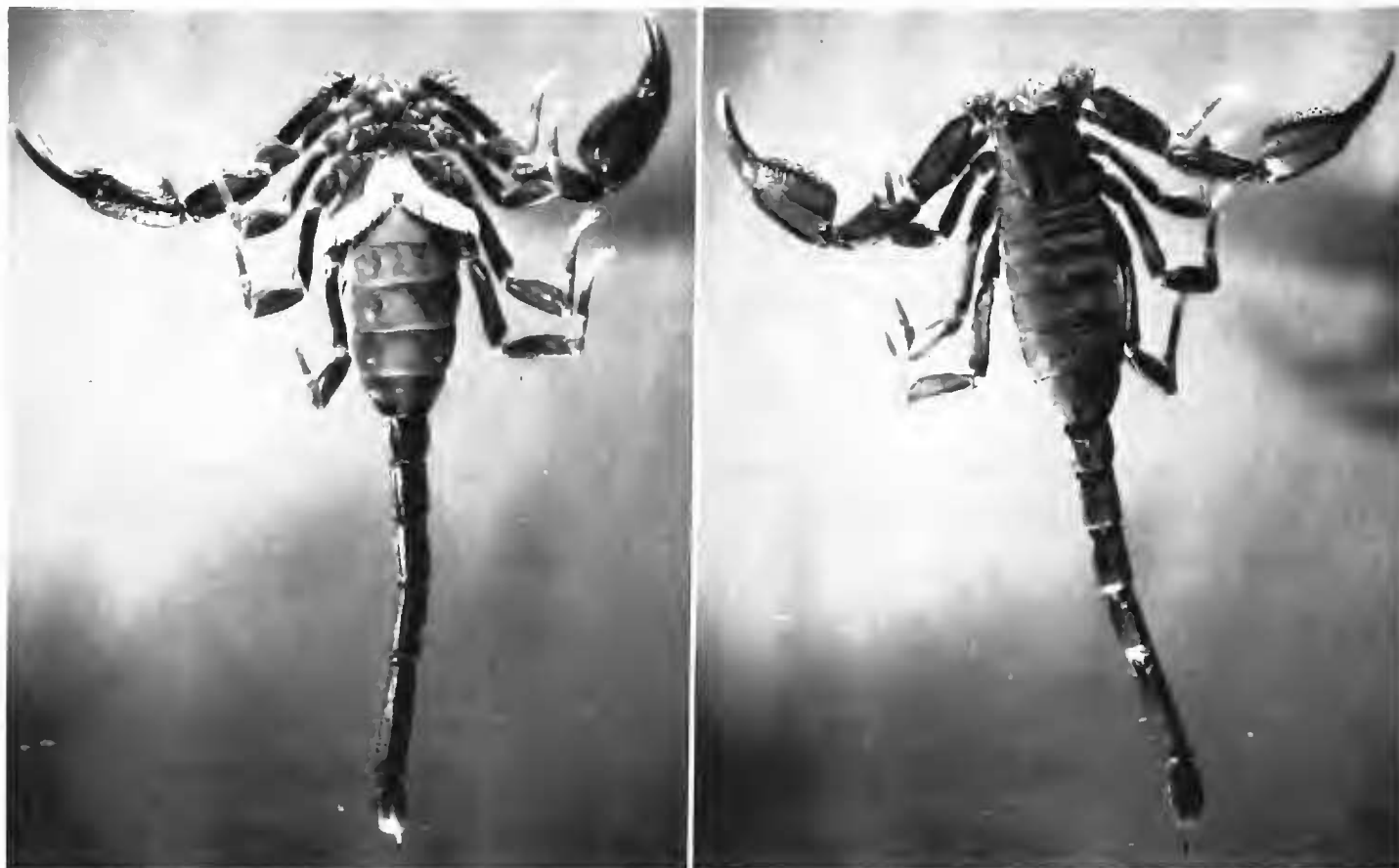


Figure 1. *Uroctonus franckei* Williams, holotype, male, dorsal and ventral views.

pectines whitish; ventral metasomal keels underlined with black pigment, vesicle ventrally blackish, with 1 pair of submedian and 1 pair of lateral golden-yellow stripes, telotarsi golden-yellow; pedipalps with keels outlined in black pigment; chelicerae with dusky variegation on golden cuticle. Prosoma: Anterior carapace margin bilobed, with distinct anterior median notch, set with 2 pairs of stout lateral setae and 1 stout seta in median notch; median ocelli small, on low, smooth ocular tubercle, ocelli separated by more than 1 ocellar diameter; carapace irregularly granular, lacking distinct keels; 3 lateral ocelli per group; sternum broad, pentagonal, 2 pairs of sternal macrosetae. Mesosoma: Terga 1–6 finely granular, lacking keels; tergum 7 lacking median keel, with 2 pairs of irregular, obsolescent lateral keels; sterna smooth, agranular, lacking keels; stigma oval, length to width ratio 2.7; genital opercula triangular, 1 pair of genital papillae, 4 pairs of genital setae; pectines with sternal plate not deeply grooved anteriorly, with only slight anterior median notch, 5 pairs of ventral macrosetae, 14 teeth per comb, 3 marginal lamellae, middle lamellae with proximal trapezoidal sclerite and 9 subcircular sclerites; fulcra triangular, each with 5–7 macrosetae. Metasoma: Dorsal keels I–IV granular; dorsolateral keels I–V granular; lateral keels granular along posterior $\frac{2}{3}$ of I, composed of 6 irregular granules on II, obsolete on III–IV, granular on anterior one-half of V; ventral keels smooth on I–II, granular on III–IV, irregularly serrate on V, single keel branched at posterior terminus of V; ventrolateral keels smooth on I–II, smooth to crenular on III, granular on IV, flair laterally at terminus of V. Telson: Vesicle smooth, lustrous, agranular over most of surface, about 6 pairs of macrosetae ventrally, inconspicuous subaculear tubercle flanked laterally by 1 pair of macrosetae. Chelicerae: Ventral margin of movable finger with 6 distinct denticles, fixed finger with ventral surface lacking denticles; fixed finger base with 2 long, conspicuous macrosetae near movable

Table 1. Measurements (mm) of *Uroctonus franckei* Williams, new species, holotype (male) and allotype. Abbreviations as follows: l = length, w = width, d = depth, fmd = frontal margin distance, ditd = distal internal trichobothrium distance, p-row = primary row denticles of chela, ff = fixed finger, mf = movable finger.

| | Holotype (male) | Allotype |
|---------------------------------|-----------------|----------------|
| Total length | 58 | 52 |
| Carapace (l/w at median eyes) | 7.3/6.2 | 6.6/5.4 |
| Diad (width/fmd) | 1.0/3.0 | 0.8/2.7 |
| Metasoma, length | 26.5 | 19.5 |
| Segment I (l/w/d) | 3.6/3.6/2.8 | 2.6/3.0/2.3 |
| Segment II (l/w/d) | 4.2/3.0/2.7 | 3.1/2.5/2.2 |
| Segment III (l/w/d) | 4.7/2.8/2.6 | 3.5/2.4/2.1 |
| Segment IV (l/w/d) | 5.5/2.5/2.4 | 4.1/2.2/2.0 |
| Segment V (l/w/d) | 8.5/2.3/2.0 | 6.6/2.1/1.6 |
| Telson, length | 7.7 | 6.0 |
| Vesicle (l/w/d) | 5.3/2.7/2.6 | 3.9/2.1/1.8 |
| Aculeus (l) | 2.4 | 2.1 |
| Pedipalp, Humerus (l/w) | 7.3/2.5 | 6.4/2.1 |
| Brachium (l/w) | 6.4/3.3 | 5.8/2.6 |
| Chela (l) | 13.9 | 12.0 |
| Palm (l/w/d) | 8.2/4.1/5.4 | 7.3/3.6/4.4 |
| Movable finger (l/base) | 7.5/2.2 | 6.2/1.9 |
| Fixed finger (l/ditd) | 5.7/5.8 | 4.7/4.8 |
| Supernumerary denticles (ff/mf) | 7/8 | 7/8 |
| Fixed finger p-row denticles | 6-8-8-11-11-32 | 6-8-8-13-12-35 |
| Pectine teeth (left/right) | 14/14 | 11/11 |
| Stigma 3 (l/w) | 0.4/0.15 | 0.35/0.15 |

finger articulation dorsally. Pedipalps: Palm swollen obliquely; supernumerary denticles 7 on fixed finger, 8 on movable finger; proximal supernumerary reduced in size, inconspicuous on both fingers; primary row denticles divided into 6 linear subrows on fixed finger, 7 linear subrows on movable fingers. Brachial trichobothria: 2 dorsals, 13 retrolaterals, 3 ventrals, 1 prolateral; prolateral surface with transverse keel armed with 3 large dentate denticles. Humeral trichobothria: 1 dorsal, 1 retrolateral, 0 ventral, 1 prolateral. Legs: Soles of telotarsi each with 11–12 spiniform setae in single ventral row; basitarsal soles with 2 rows spiniform setae on legs 1–2, 1 row on leg 3, none on leg 4.

Allotype.—Similar to holotype in color and structure with the following exceptions: Slightly smaller body size; slightly lighter in color; pectine shorter, less robust, teeth shorter, teeth fewer, 6 middle lamellae; no genital papillae; movable finger of chela shorter than carapace; brachium length more than twice width; metasoma less elongate, segment IV length less than twice width.

Paratype variation.—Similar to holotype and allotype in size, color, and structure with following exceptions: Total length 39–57 mm in males, 38–54 mm in females; pectine tooth counts 13–14 (mode = 14) in males, 9–12 (mode = 11) in females; smaller individuals lighter in coloration than larger ones; population from near Whitney Portal less reddish in color than those further north.

Type data.—Holotype (male), and allotype, California: Inyo Co., 17.7 km (11 miles) W Big Pine, elevation 2376 meters (7796 feet), 17 Sept. 1980, S. C. Wil-

liams. Holotype and allotype depository: California Academy of Sciences, Entomology Type No. 15749. This species is named *Uroctonus franckei* after Oscar F. Francke of Texas Tech University in recognition of his many contributions to scorpion biology and systematics.

Paratypes. — Topoparatypes, 3 males, 2 females. California: Mono Co., Oh Ridge Camp, June Lake, elevation 2133 meters (7000 ft), 20 June 1980, S. C. Williams, 6 males; Inyo Co., 4.8 km (3 miles) E Whitney Portal, 30 Sept. 1980, S. C. Williams, 2 females.

Remarks. — This species was never found to be abundant, and was only collected by ultraviolet detection methods. It occurs sympatrically with *Paruroctonus boreus* (Girard).

LITERATURE CITED

- Williams, S. C. 1980. Scorpions of Baja California, Mexico, and adjacent islands. Occas. Pap. Calif. Acad. Sci., 135:1-127.